

## A B S T R A C T

The present invention provides an improved method and a system for processing data packets in a router. The router includes a plurality of input/output ports and more than one packet processing units. The packet processing units derive from a piece of information associated to each data packet one output port to forward the data packet to. In response to a data packet arriving at one input port one packet processing unit is determined. The determined packet processing unit is then requested to derive a respective output port. The output port is derived from a piece of information within the packet. An identification identifying the respective output port is in the following returned to the requesting unit. Finally, the data packet is forwarded to the identified output port. The method and system according to the present invention optimize advantageously resource utilization that leads to higher packet processing speed and helps to lower the costs and power requirements. Furthermore, it leads to increased fault tolerance, i.e. increased reliability.